

TECHNICAL REPORT

August 2002

Safety Belt Usage In Illinois

June 2002 Observational Survey Results

Compiled and Prepared by

Illinois Department of Transportation
Division of Traffic Safety
Evaluation Unit
3215 Executive Park Drive
Springfield, Illinois 62794-9245

Illinois Department of Transportation

Division of Traffic Safety

Evaluation Unit

The Evaluation Unit within the Division of Traffic Safety in the Illinois Department of Transportation focuses on evaluation and monitoring of various highway safety programs in Illinois. The research and evaluation issues include costs and benefits of child seats, safety belts and motorcycle helmets in the real world of crashes, evaluation of highway safety projects and programs, such as Traffic Law Enforcement Program (TLEP), Local Alcohol Program (LAP), IMaGE projects, high accident locations project, and health care costs and utilization of motor vehicle crash victims.

This report provides estimated safety belt usage rates in Illinois using a statistical (multi-stage random) observational survey conducted statewide during June 2002 on both high volume state highways and low volume local roads and residential streets in Illinois. In addition, the report provides safety belt usage rates by vehicle type (passenger car and pickup truck), region, road type, time of day, and day of week.

The report was compiled and prepared by the Evaluation staff. Comments or questions may be addressed to Mehdi Nassirpour, Chief of Evaluation Unit, Bureau of Administrative Services, Division of Traffic Safety, Illinois Department of Transportation, 3215 Executive Park Drive, Springfield, Illinois 62794-9245.

TABLE OF CONTENTS

SURVEY OF METHODOLOGY	1
HISTORICAL TRENDS	1
SUMMARY OF FINDINGS	2

LIST OF TABLES

TABLE 1.	Overall Safety Belt Usage Rates in Illinois.....	5
TABLE 2.	Passenger Car Safety Belt Usage Rates in Illinois	6
TABLE 3.	Pickup Truck Safety Belt Usage Rates in Illinois	7
TABLE 4.	Overall Safety Belt Usage Rates in Illinois (Comparison of 2000 and 2001)	8
TABLE 5.	Passenger Car Safety Belt Usage Rates in Illinois (Comparison of 2000 and 2001)	9
TABLE 6.	Pickup Truck Safety Belt Usage Rates in Illinois (Comparison of 2000 and 2001)	10

LIST OF FIGURES

FIGURE 1.	Front Seat Occupant Restraint Usage Rate: Comparison Of Survey Results	2
FIGURE 2.	Overall Safety Belt Usage Rates in Illinois in 2000-2001	11
FIGURE 3.	Passenger Car Safety Belt Usage Rates in Illinois In 2000-2001	12
FIGURE 4.	Pickup Truck Safety Belt Usage Rates in Illinois in 2000-2001	13

Survey Design

The recent belt survey was a statistical (multi-stage random) observational survey conducted statewide during June 2002 on both high volume state highways and low volume local roads and residential streets. The survey provided a statistically representative sample of the state as a whole. The survey design was based on the National Highway Traffic Safety Administration's requirements and had four characteristics.

1. The survey was conducted between 7:00 a.m. and 6:30 p.m. when the light was adequate for observation.
2. The survey observations were restricted to front seat occupants (drivers and outboard passengers) of passenger cars (cars, sport utility vehicles, taxis and vans) and pickup trucks.
3. Only the use of a shoulder harness was observed since vehicles passed an observation point without stopping.
4. The survey sites included interstate highways, freeways, county roads, state highways and a random sample of residential streets within selected areas.

There were 118,375 front seat occupants at 258 locations statewide observed in this survey. Of those, 105,205 drivers and outboard passengers were in passenger cars (which included cars, sport utility vehicles, and vans) and 13,170 were in pickup trucks. For more information on survey design, refer to the original report entitled "Design of the New Safety Belt Usage Survey in Illinois", Division of Traffic Safety, Illinois Department of Transportation (IDOT), January 1994.

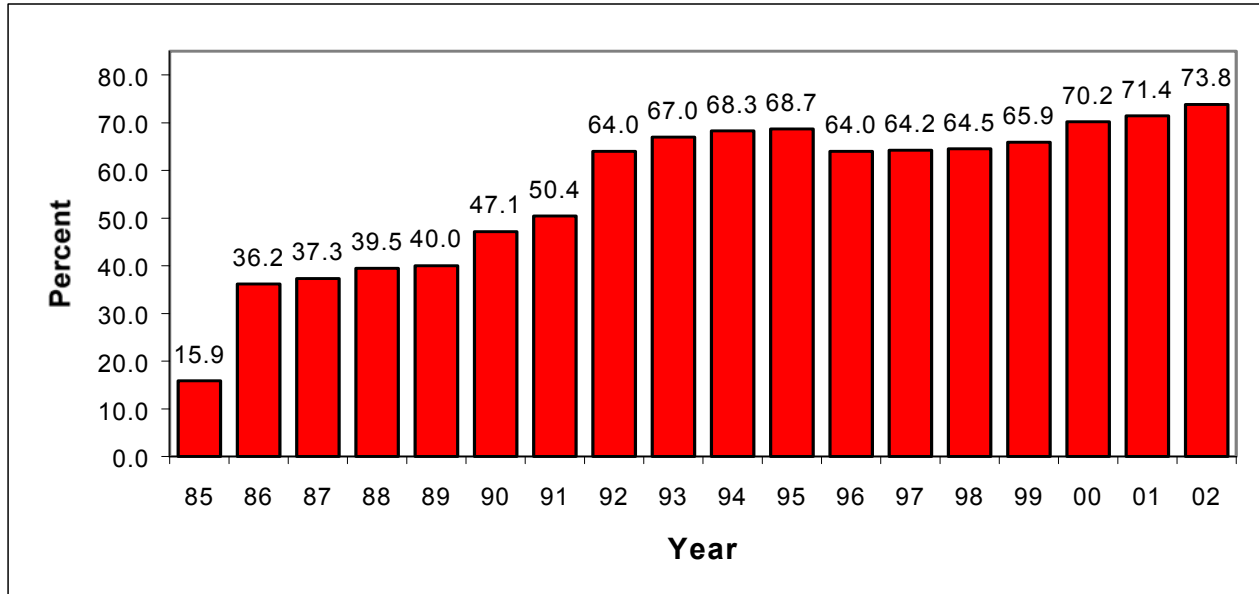
Historical Trends

Illinois' first safety belt survey was conducted in April 1985, prior to the safety belt law becoming effective on July 1, 1985. The data from the first survey became a base from which to measure the success of Illinois' efforts to educate citizens about the benefits of using safety belts.

The base line (April 1985) occupant restraint usage rate for all front seat occupants (drivers and passengers) observed in Illinois was 15.9 percent. During the first twelve months after the safety belt law became effective, the observed usage rate increased to 36.2 percent. Since that time, the usage rate has shown a gradual increase, peaking in June 2002 at a level of 73.8 percent. There was an increase of approximately 58 percentage points since the first survey was conducted in April 1985 (**see Figure 1**). It should be noted that the 1998 through 2002 safety belt surveys

include pickup truck drivers and passengers who tend to have significantly lower usage rates than the front seat occupants of passenger cars. For example, the usage rates for the pickup truck occupants were 49.6 percent in 1999, 54.2 percent in 2000, 56.5 percent in 2001 and 60.9 percent in 2002.

Figure 1
Front Seat Occupant Restraint Usage Rate
 Comparison of Survey Results



Note: 1998 through 2001 safety belt usage rates include pickup truck drivers and passengers.

Summary of Findings

Tables 1, 2 and 3 show results of the safety belt survey conducted at 258 sites during June 2002. Columns 1, 3 and 5 depict total number of observations for drivers, passengers and combined drivers and passengers respectively. Columns 2, 4 and 6 represent actual safety belt usage rates for drivers, passengers and totals (drivers and passengers). The categories listed down the left side of the table indicate the various regions of the state where the survey was conducted (with the number of sites in each region in parentheses), road types, time of day the survey was conducted, and a breakdown of weekdays and weekends. A total of 118,375 front seat occupants were observed during the survey. Looking at these tables, it is evident that the safety usage rate patterns across selected categories for drivers are similar to that for passengers.

Table 1 shows safety belt use for combined passenger cars and pickup trucks. Of the total of 118,375 front seat occupants of both passenger cars and pickup trucks, 73.8 percent wear safety belts. The collar counties of DuPage, Will, Kane, McHenry, and Lake had the highest usage rate at 77.5 percent followed by the downstate counties (Champaign, Macon, Rock Island, St. Clair, Montgomery and Peoria) at 73.9 percent. Cook County, excluding the City of Chicago, had a usage rate of 71.0 percent, while the City of Chicago had the lowest usage rate at 67.7 percent. Interstate highway travelers had the highest usage rate at 83.1 percent followed by US and Illinois marked highway travelers at 75.0 percent. Motorists traveling on residential streets had the lowest usage rate at 67.7 percent. Non-rush hours had the highest usage rate at 74.7 percent followed by the evening rush hours (4:30 p.m. to 6:30 p.m.) which had a usage rate of 74.0 percent. The morning rush hours (7:00 a.m. to 9:30 a.m.) and noon rush hours (11:30 a.m. to 1:30 p.m.) had usage rates of 72.5 percent and 72.6 percent respectively. The usage rate on weekends was slightly higher at 74.7 percent than the 73.1 percent on weekdays.

Table 2 presents safety belt use data and information for drivers and passengers of passenger cars excluding pickup trucks. Of the total of 105,205 observations, 75.4 percent were wearing seat belts. The safety belt usage rate for passengers was slightly higher than that for drivers (75.7 percent versus 75.4 percent). The usage rate patterns across selected categories in **Table 2** are similar to the overall usage rate patterns shown in **Table 1**, except the morning rush hours had a slightly higher usage rate (74.7 percent) than the noon rush hours (74.3 percent).

Table 3 shows safety belt use patterns for pickup truck drivers and passengers. A total of 10,831 drivers and 2,339 passengers were observed. Passengers had a slightly higher seat belt usage rate than drivers (61.4 percent versus 60.8 percent). The usage rate patterns across selected categories in **Table 3** are similar to the overall usage rate patterns shown in **Table 1** with a couple of slight differences. Pickup truck occupants had the a slightly higher seat belt usage rate during the morning rush hours than during noon rush hours (57.8 percent versus 57.4 percent). Secondly, there was no difference in seat belt usage among weekdays and weekends with both having usage rates of 60.9 percent.

Table 4 through **Table 6** present safety belt usage rates in November 2001 and June 2002 and percent changes among front seat occupants of passenger cars and pickup trucks.

Table 4 and **Figure 2** depict that the overall safety belt usage rate among drivers and front seat passengers increased by 2.4 percent from November 2001 to June 2002. All of the overall usage rates increased from November 2001 to June 2002. The downstate counties showed the highest

percent increase in belt use with an increase of 6.4 percent. The City of Chicago had the second highest increase in belt use by 2.7 percent. The collar counties and Cook county, excluding the City of Chicago, had slight increases in belt use of 1.5 percent and 0.8 percent respectively. U.S./Illinois Highways had a 3.1 percent increase in belt use, while residential road belt usage was close with an increase of 2.7 percent. Interstate Highways only showed a slight increase in belt use by 1.4 percent. Noon rush hours had an increase of 5.1 percent, while morning rush hours and non-rush hours had increases of 2.3 percent and 1.4 percent respectively. Since there was not enough light during November 2001 to observe evening rush hours, there were no comparative data for the June 2002 evening rush hours. Finally, weekday belt usage was up 4.0 percent, while weekend belt usage was only up 1.0 percent.

Table 5 and **Figure 3** show that the safety belt use among passenger car drivers and passengers increased by 2.3 percent from 73.1 percent in November 2001 to 75.4 percent in June 2002.

Table 5 follows the same trends that are found in **Table 4** with one exception. There was a percent increase in belt use of passenger cars on residential roads by 2.9 percent. On the other hand, U.S./Illinois Highways only showed an increase of 2.1 percent in belt use among passenger cars, while Interstate Highways had an increase of 1.1 percent in belt use.

Table 6 and **Figure 4** show that the safety belt usage for pickup truck drivers and passengers increased by 4.4 percent from 56.5 percent in November 2001 to 60.9 percent in June 2002. The downstate counties and collar counties had substantial increases in belt use of 6.1 percent and 4.3 percent respectively. Cook County, excluding the City of Chicago, had an increase of 3.2 percent in belt use among pickup truck occupants, while the City of Chicago only had an increase in belt use of 2.2 percent. U.S./Illinois Highways had a rather large increase in belt use among pickup truck occupants by 9.8 percent. Interstate highways showed a substantial increase in belt use of 4.8 percent, while belt use on residential roads was only up 1.7 percent. There was an increase of 5.4 percent in belt use for pickup truck occupants during non-rush hours. Plus, there were increases in belt use during morning rush hours and noon rush hours of 2.9 percent and 2.7 percent respectively. Both weekends and weekdays showed increases in belt use with weekdays showing a slightly larger increase of 4.9 percent to a 3.8 percent increase during the weekends.

Table 1
Overall Safety Belt Usage Rates in Illinois
(June 2002)

	Drivers		Passengers		Total	
	Total Observed	Actual Usage Rate	Total Observed	Actual Usage Rate	Total Observed	Actual Usage Rate
	(1)	(2)	(3)	(4)	(5)	(6)
Statewide (258)	97,759	73.8%	20,616	74.1%	118,375	73.8%
Regions						
City of Chicago (46)	21,481	68.1%	4,436	65.7%	25,917	67.7%
Cook County (40)	13,110	70.8%	1,931	71.7%	15,041	71.0%
Collar Counties (118)	43,526	77.5%	9,998	77.6%	53,524	77.5%
Downstate (54)	19,642	73.6%	4,251	75.5%	23,893	73.9%
Road Type						
Residential (190)	60,322	70.4%	12,100	70.3%	72,422	70.4%
U.S./Illinois Highways (40)	17,744	75.1%	4,021	74.2%	21,765	75.0%
Interstate Highways (28)	19,693	82.8%	4,495	84.0%	24,188	83.1%
Time of Day						
Morning Rush Hours (55)	19,595	73.1%	3,827	69.2%	23,422	72.5%
Noon Rush Hours (45)	17,492	72.7%	3,903	72.2%	21,395	72.6%
Evening Rush Hours (23)	8,294	73.4%	2,106	76.6%	10,400	74.0%
Non-Rush Hours (135)	52,378	74.4%	10,780	76.0%	63,158	74.7%
Day of Week						
Weekends (115)	43,798	74.7%	11,802	74.7%	55,600	74.7%
Weekdays (143)	53,961	73.0%	8,814	73.3%	62,775	73.1%

Note: Pickup trucks and passenger cars (cars, sport utility vehicles, taxicabs and vans) were included in this table.

Table 2
Passenger Car Safety Belt Usage Rates in Illinois
(June 2002)

	Drivers		Passengers		Total	
	Total Observed (1)	Actual Usage Rate (2)	Total Observed (3)	Actual Usage Rate (4)	Total Observed (5)	Actual Usage Rate (6)
Statewide (258)	86,928	75.4%	18,277	75.7%	105,205	75.4%
Regions						
City of Chicago (46)	20,286	69.2%	4,122	67.4%	24,408	68.9%
Cook County (40)	11,855	72.4%	1,709	74.1%	13,564	72.6%
Collar Counties (118)	38,486	79.3%	8,827	79.2%	47,313	79.3%
Downstate (54)	16,301	76.0%	3,619	77.5%	19,920	76.2%
Road Type						
Residential (190)	54,408	71.9%	10,860	72.2%	65,268	72.0%
U.S./Illinois Highways (40)	15,022	77.5%	3,399	75.5%	18,421	77.1%
Interstate Highways (28)	17,498	84.4%	4,018	85.5%	21,516	84.6%
Time of Day						
Morning Rush Hours (55)	17,160	75.3%	3,192	71.3%	20,352	74.7%
Noon Rush Hours (45)	15,692	74.4%	3,545	73.9%	19,237	74.3%
Evening Rush Hours (23)	7,478	74.9%	1,959	77.3%	9,437	75.4%
Non-Rush Hours (135)	46,598	75.8%	9,581	77.5%	56,179	76.1%
Day of Week						
Weekends (115)	39,111	76.4%	10,550	76.1%	49,661	76.3%
Weekdays (143)	47,817	74.5%	7,727	75.2%	55,544	74.6%

Note: Passenger cars (cars, sport utility vehicles, taxicabs and vans) were included in this table.

Table 3
Pickup Truck Safety Belt Usage Rates in Illinois
(June 2002)

	Drivers		Passengers		Total	
	Total Observed (1)	Actual Usage Rate (2)	Total Observed (3)	Actual Usage Rate (4)	Total Observed (5)	Actual Usage Rate (6)
Statewide (258)	10,831	60.8%	2,339	61.4%	13,170	60.9%
Regions						
City of Chicago (46)	1,195	50.4%	314	44.3%	1,509	49.1%
Cook County (40)	1,255	56.3%	222	53.2%	1,477	55.8%
Collar Counties (118)	5,040	63.7%	1,171	66.2%	6,211	64.2%
Downstate (54)	3,341	61.9%	632	64.1%	3,973	62.2%
Road Type						
Residential (190)	5,914	56.5%	1,240	54.4%	7,154	56.1%
U.S./Illinois Highways (40)	2,722	62.4%	622	67.5%	3,344	63.3%
Interstate Highways (28)	2,195	70.6%	477	71.9%	2,672	70.8%
Time of Day						
Morning Rush Hours (55)	2,435	57.6%	635	58.6%	3,070	57.8%
Noon Rush Hours (45)	1,800	57.8%	358	55.3%	2,158	57.4%
Evening Rush Hours (23)	816	59.2%	147	67.3%	963	60.4%
Non-Rush Hours (135)	5,780	63.3%	1,199	64.1%	6,979	63.4%
Day of Week						
Weekends (115)	4,687	60.4%	1,252	62.9%	5,939	60.9%
Weekdays (143)	6,144	61.1%	1,087	59.7%	7,231	60.9%

Note: Large trucks were excluded from this table.

Table 4
Overall Safety Belt Usage Rates in Illinois*
(Comparison of November 2001 and June 2002)

	Drivers			Passengers			Total		
	Usage Rate (Nov.)	Usage Rate (July)	Percent Change	Usage Rate (Nov.)	Usage Rate (July)	Percent Change	Usage Rate (Nov.)	Usage Rate (July)	Percent Change
Statewide (258)	71.2%	73.8%	2.6%	72.3%	74.1%	1.8%	71.4%	73.8%	2.4%
Regions									
City of Chicago (46)	65.5%	68.1%	2.6%	62.8%	65.7%	2.9%	65.0%	67.7%	2.7%
Cook County (40)	70.2%	70.8%	0.6%	69.8%	71.7%	1.9%	70.2%	71.0%	0.8%
Collar Counties (118)	75.5%	77.5%	2.0%	78.3%	77.6%	-0.7%	76.0%	77.5%	1.5%
Downstate (54)	67.6%	73.6%	6.0%	67.1%	75.5%	8.4%	67.5%	73.9%	6.4%
Road Type									
Residential (190)	68.0%	70.4%	2.4%	66.5%	70.3%	3.8%	67.7%	70.4%	2.7%
U.S./Illinois Highways (40)	72.0%	75.1%	3.1%	71.3%	74.2%	2.9%	71.9%	75.0%	3.1%
Interstate Highways (28)	80.4%	82.8%	2.4%	87.0%	84.0%	-3.0%	81.7%	83.1%	1.4%
Time of Day									
Morning Rush Hours (55)	70.2%	73.1%	2.9%	69.9%	69.2%	-0.7%	70.2%	72.5%	2.3%
Noon Rush Hours (45)	67.4%	72.7%	5.3%	67.5%	72.2%	4.7%	67.5%	72.6%	5.1%
Evening Rush Hours (23)**	-	73.4%	-	-	76.6%	-	-	74.0%	-
Non-Rush Hours (135)	72.9%	74.4%	1.5%	75.2%	76.0%	0.8%	73.3%	74.7%	1.4%
Day of Week									
Weekends (115)	73.2%	74.7%	1.5%	75.8%	74.7%	-1.1%	73.7%	74.7%	1.0%
Weekdays (143)	69.4%	73.0%	3.6%	67.5%	73.3%	5.8%	69.1%	73.1%	4.0%

* Pickup trucks and passenger cars (cars, sport utility vehicles, taxicabs and vans) were included in this table.

**November 2001 survey does not include data for evening rush hours, since the light was not adequate for observation

Table 5
Passenger Car Safety Belt Usage Rates in Illinois*
(Comparison of November 2001 and June 2002)

	Drivers			Passengers			Total		
	Usage Rate (Nov.)	Usage Rate (July)	Percent Change	Usage Rate (Nov.)	Usage Rate (July)	Percent Change	Usage Rate (Nov.)	Usage Rate (July)	Percent Change
Statewide (258)	72.8%	75.4%	2.6%	74.4%	75.7%	1.3%	73.1%	75.4%	2.3%
Regions									
City of Chicago (46)	66.4%	69.2%	2.8%	64.8%	67.4%	2.6%	66.1%	68.9%	2.8%
Cook County (40)	71.6%	72.4%	0.8%	72.0%	74.1%	2.1%	71.6%	72.6%	1.0%
Collar Counties (118)	77.2%	79.3%	2.1%	80.4%	79.2%	-1.2%	77.8%	79.3%	1.5%
Downstate (54)	70.2%	76.0%	5.8%	68.9%	77.5%	8.6%	70.1%	76.2%	6.1%
Road Type									
Residential (190)	69.3%	71.9%	2.6%	68.1%	72.2%	4.1%	69.1%	72.0%	2.9%
U.S./Illinois Highways (40)	75.1%	77.5%	2.4%	74.8%	75.5%	0.7%	75.0%	77.1%	2.1%
Interstate Highways (28)	82.2%	84.4%	2.2%	88.6%	85.5%	-3.1%	83.5%	84.6%	1.1%
Time of Day									
Morning Rush Hours (55)	71.9%	75.3%	3.4%	72.1%	71.3%	-0.8%	71.9%	74.7%	2.8%
Noon Rush Hours (45)	69.0%	74.4%	5.4%	69.4%	73.9%	4.5%	69.1%	74.3%	5.2%
Evening Rush Hours (23)**	-	74.9%	-	-	77.3%	-	-	75.4%	-
Non-Rush Hours (135)	74.6%	75.8%	1.2%	77.2%	77.5%	0.3%	75.0%	76.1%	1.1%
Day of Week									
Weekends (115)	75.1%	76.4%	1.3%	77.9%	76.1%	-1.8%	75.6%	76.3%	0.7%
Weekdays (143)	70.8%	74.5%	3.7%	69.5%	75.2%	5.7%	70.6%	74.6%	4.0%

* Passenger cars (cars, sport utility vehicles, taxicabs and vans) were included in this table.

** November 2001 survey does not include data for evening rush hours, since the light was not adequate for observation

Table 6
Pickup Truck Safety Belt Usage Rates in Illinois*
(Comparison of November 2001 and June 2002)

	Drivers			Passengers			Total		
	Usage Rate (Nov.)	Usage Rate (July)	Percent Change	Usage Rate (Nov.)	Usage Rate (July)	Percent Change	Usage Rate (Nov.)	Usage Rate (July)	Percent Change
Statewide (258)	56.7%	60.8%	4.1%	55.6%	61.4%	5.8%	56.5%	60.9%	4.4%
Regions									
City of Chicago (46)	49.3%	50.4%	1.1%	39.5%	44.3%	4.8%	46.9%	49.1%	2.2%
Cook County (40)	53.6%	56.3%	2.7%	46.8%	53.2%	6.4%	52.6%	55.8%	3.2%
Collar Counties (118)	59.8%	63.7%	3.9%	60.4%	66.2%	5.8%	59.9%	64.2%	4.3%
Downstate (54)	55.7%	61.9%	6.2%	58.8%	64.1%	5.3%	56.1%	62.2%	6.1%
Road Type									
Residential (190)	54.8%	56.5%	1.7%	52.8%	54.4%	1.6%	54.4%	56.1%	1.7%
U.S./Illinois Highways (40)	54.2%	62.4%	8.2%	50.0%	67.5%	17.5%	53.5%	63.3%	9.8%
Interstate Highways (28)	65.0%	70.6%	5.6%	70.9%	71.9%	1.0%	66.0%	70.8%	4.8%
Time of Day									
Morning Rush Hours (55)	55.3%	57.6%	2.3%	53.2%	58.6%	5.4%	54.9%	57.8%	2.9%
Noon Rush Hours (45)	54.7%	57.8%	3.1%	55.0%	55.3%	0.3%	54.7%	57.4%	2.7%
Evening Rush Hours (23)**	-	59.2%	-	-	67.3%	-	-	60.4%	-
Non-Rush Hours (135)	58.2%	63.3%	5.1%	57.2%	64.1%	6.9%	58.0%	63.4%	5.4%
Day of Week									
Weekends (115)	56.7%	60.4%	3.7%	58.6%	62.9%	4.3%	57.1%	60.9%	3.8%
Weekdays (143)	56.8%	61.1%	4.3%	51.7%	59.7%	8.0%	56.0%	60.9%	4.9%

* Large trucks were excluded from this table.

** November 2001 survey does not include data for evening rush hours, since the light was not adequate for observation

Figure 2
Overall Safety Belt Usage Rates in Illinois in 2001-2002

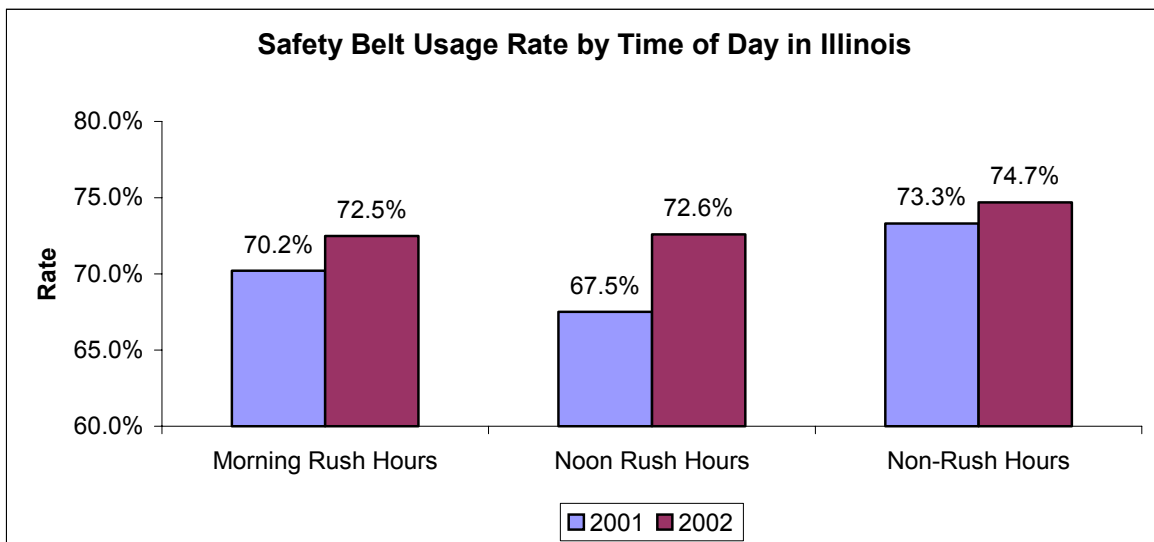
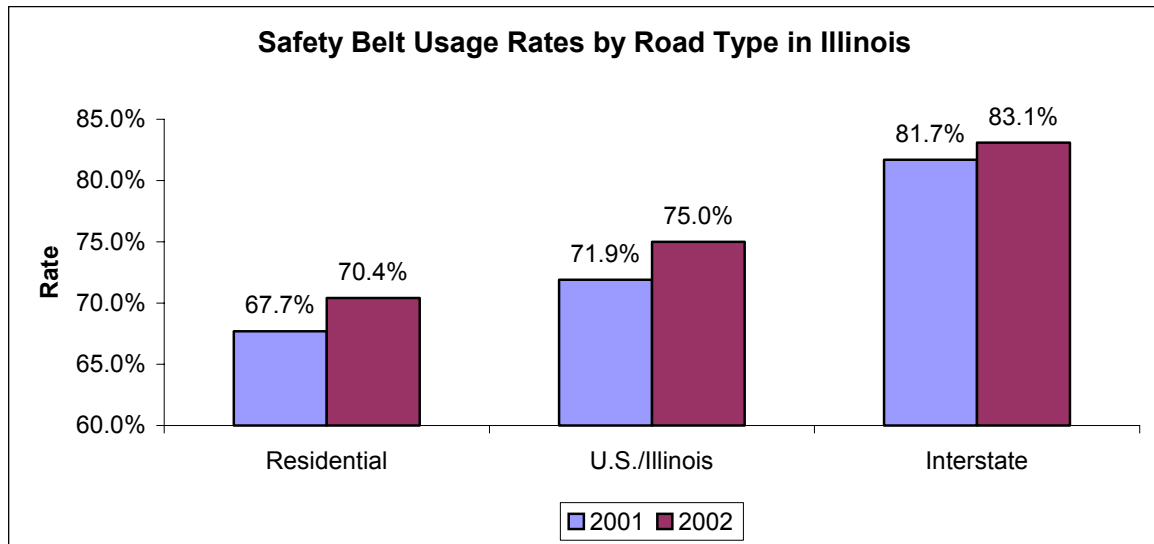
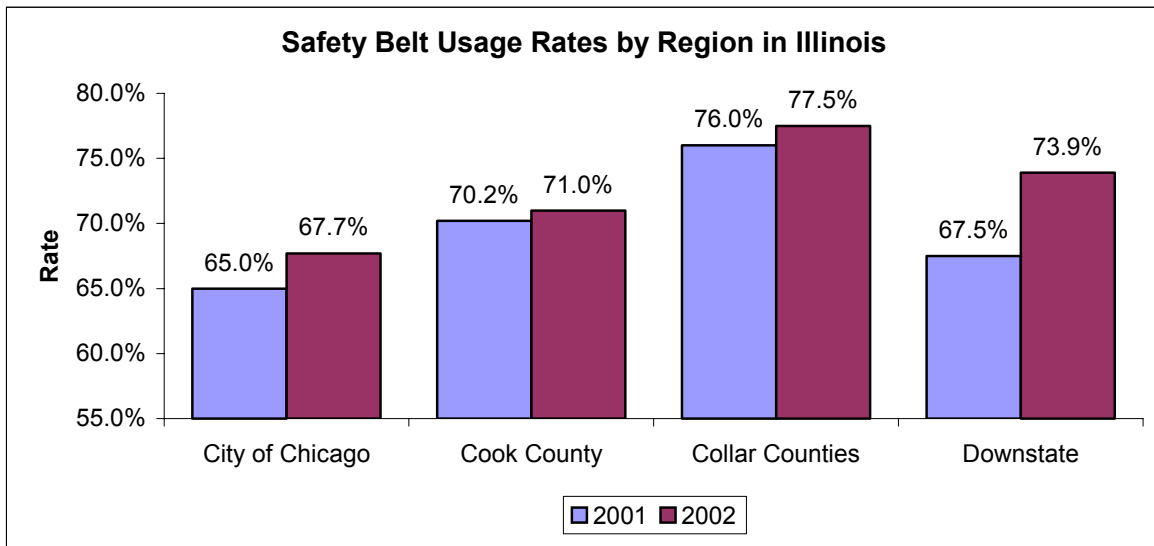


Figure 3
Passenger Car Safety Belt Usage Rates in Illinois in 2001-2002

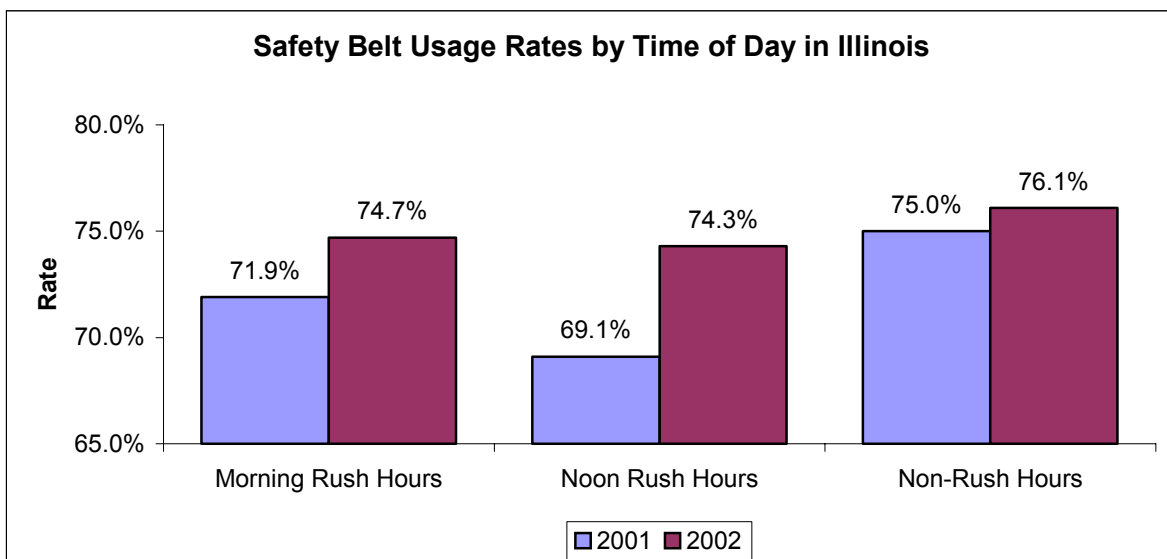
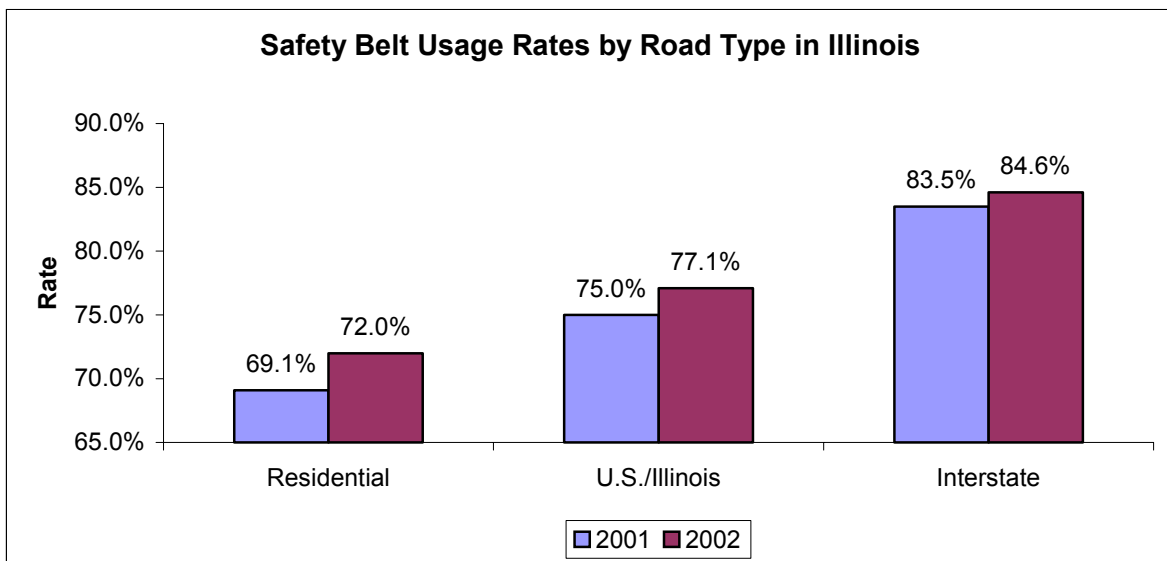
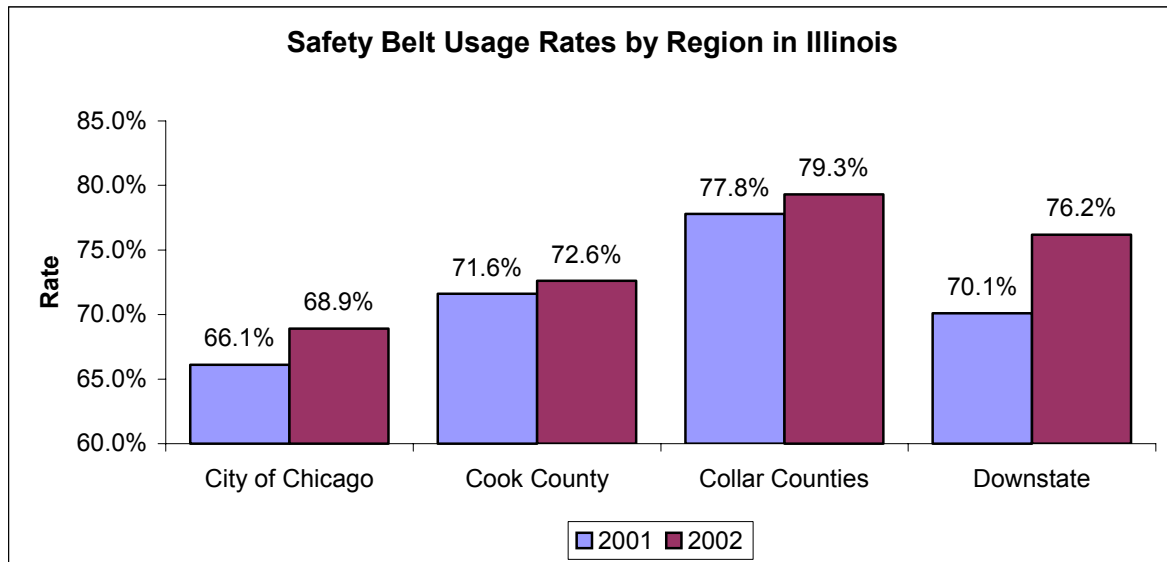


Figure 4
Pickup Truck Safety Belt Usage Rates in Illinois in 2001-2002

